

# INFORMATION COMMUNICATIONS TECHNOLOGY (ICT) USE AND PERCEIVED IMPACT ON LEARNING AMONG POST GRADUATE STUDENTS OF OLABISI ONABANJO UNIVERSITY, AGO – IWOYE

**Ojo, Reuben Abiodun**

*Kenneth Dike Library*

*University of Ibadan*

*Email: [biodunojo2004@yahoo.com](mailto:biodunojo2004@yahoo.com)*

**Lawal, Olayide Wasiu**

*University Library*

*Olabisi Onabanjo University,*

*P.M.B. 2002,*

*Ago-Iwoye, Ogun State, Nigeria*

*Email: [lawal022001@yahoo.com](mailto:lawal022001@yahoo.com)*

## **Abstract**

*This paper examines Information Communications Technology (ICT) use and perceived impact on learning among post graduate students of Olabisi Onabanjo University (OOU), Ago-Iwoye.. A descriptive survey research method was adopted for the study. A total of One Hundred (100) respondents were selected from the institution using simple random sampling technique. The level of usage of Information and Communications Technology (ICT), in teaching and learning was examined. Questionnaire was used to collect gather data from the respondents who participated in the study. The data collected were analyzed, using frequency grade tabulations and t-test statistical method. The results of the analysis indicated that there is a significant impact of Information and Communications Technology (ICT) use on teaching and learning.. Result also showed that there is a significant improvement on the part of the students and lecturers in using ICTs in teaching and learning activities of Olabisi Onabanjo University postgraduate students.*

## **Introduction**

Rapid advances in Information Communications Technology (ICT) have provided new learning methods and environments. Access to



Information Communications Technology (ICT) to enhance performance in the area of teaching and learning has been widely acknowledged. In fact, it is a panacea for improving the investment climate of academic community in any country. It is a known fact that Information Communications Technology (ICT) has brought drastic changes to all ramifications of human endeavor with respect to handling activities using traditional methods. For example, the effective and sustainable platform for efficient learning and teaching delivery that this new technology offers are being significantly tapped by all and sundry

However, post graduate students, and researchers alike in Olabisi Onabanjo University, constitute the greater percentage of the groups that use ICT either for research or learning activities. This becomes necessary because one is prone to limitations if the only source for getting information that is available to one is through printed materials. Adequate knowledge of the use of ICT equipment, such as computers and its accessories, for electronic information delivery system in this case is very crucial on the part of post graduate students of Olabisi Onabanjo University. This, to some extent, will enable them to have access to other sources of information apart from those held in printed format in order to give their learning activities a robust outlook.

### **ICT in Learning and Teaching**

Information Communications Technology (ICT) allows radically new opportunities in human activities. How will education meet these challenges? Today, in the wider society, most people who need to add up a bill use a calculator. Most texts are written and read on a computer. In the near future, it will be possible to turn to a mobile handset to answer most educational problems and questions on school tests and to receive oral or written help on advice automatically (without using a qualified expert) in a few seconds. What does this mean for future postgraduate education? What does it mean for the higher institutions that find themselves in such circumstances?

The fundamental error that many educators commit when they consider using ICTs is to view them through the lens of their current practice. They ask, "How can I use these technological capabilities to streamline what I



am really doing?" By its very nature, ICTs call for innovation. It is about exploiting the full capabilities of technology to open new perspectives for both lectures and students. At the same time, it is unwise to ignore traditional styles and models of learning as well as ideas from the past that were not implemented in institutions but were precious exceptions. Therefore, we need to start with things that we are already doing, but consider them anew.

### **ICTs use in teaching and learning**

According to Okon (2004), teaching was judged to be enhanced through specific ICTs use. For example, the data projector and interactive whiteboard were observed being used to make illustrative points through good quality photographic images and an appropriate software programme. It was possible too for students to access software which was also on the teacher's board and they could be taught through the software. The use of technology also allows a greater variety of teaching activities which actively require students' involvement. Both teaching and learning are judged to be enhanced by the use of revision software; through enhanced visual presentations of complex concepts (for example, chemical bonding); for enhancing data analysis activities through data-logging.

### **What factors aid successful utilization of ICTs?**

Two general strengths had contributed to this success: the thought and planning given to the introduction of the technology; and the process of constant practice that will ensure the technical know-how in the use of ICTs infrastructures on the part of postgraduate students and researchers alike. Research has shown that the use of ICT infrastructures will enhance performance in learning and teaching.

### **Statements of the Problem**

Considering the role of ICT in Post graduate students' learning activities, post graduate students in Nigeria are faced with a number of challenges. These include responding to technology and exploiting its proper utilization without diminishing the learning experience. In order to address these challenges, there is need to examine ICT in the context of its use and



perceived impact on learning among post graduate students of Olabisi Onabanjo University, Ago-Iwoye.

### **Objective of the Study**

The broad objective of this study is to examine Information Communications Technology (ICT) use and perceived impact on learning among post graduate students of Olabisi Onabanjo University (OOU), Ago-Iwoye..

The specific objectives are:

1. To determine the effect of ICT on teaching and learning
2. To examine the effect of the use of Internet on students achievement
3. To examine the impact of technology resources on learning among students
4. To make some policy recommendations based on the findings

### **Hypothesis**

H<sub>1</sub>; Information and Communication Technologies (ICTs) has a significant effect on teaching and learning

H<sub>2</sub>; There is a strong significant effect of use of Information and Communications Technology (ICT) on teaching and learning

### **Literature Review**

#### **ICT and its use in Teaching and Learning**

Rapid advances in information technology have provided new learning methods and environments. Technology has changed the way people live, work, and learn. The use of ICT in education is one of the main challenges for education policy makers (Zalzadeh 2006).

Traditional methods of education are no longer able to meet the needs of today's learners. Computers and data processing techniques have made possible the high speed selective retrieval of large amounts of information and a method of doing research



### **ICT as the channel for delivering instruction**

The ICT use in teaching and learning methods depends on the knowledge and skills of students and lecturers, and the implementation of ICT in courses (Kousha 2006).

The use of ICT varies across disciplines. Regardless of the discipline, however, the advantage is that students and lecturers are not limited by time and place (Fattahian 2004). Technical expertise is also important, including the ability to identify and retrieve useful data (Mansouri and Pashootanizadeh 2007).

The cultural environment is also important. The country's information infrastructure, the value society puts on information, attitudes of policy, and decision makers, and the country's level of technological development should be taken into consideration as well (Vallejo, 1998).

Changes in ICT have affected developing countries along with others. Educational programs are no longer fixed entities, but are continuously changing and adapting (Hayatie 1998).

### **Educating Teachers and Reviewing Teaching Methods**

The entrance of ICT into teaching and learning has made it attractive. If lecturers learn how to use new technologies in education, teaching this discipline would also be more interesting. In recent years, using ICT in education has increased. With optimized use of ICT, virtual and electronic education might increase.

The growth of ICT has had a profound influence on higher education. Today, students can pursue scientific, educational, and research goals using the Internet. The entrance of ICT has led to review of educational programs and teaching methods. Continued reviews are needed to meet future needs. Teaching methods in many disciplines must change, and must continue to incorporate ICT into teaching. For this to happen, it is necessary to educate students as well as teachers.

### **Information Literacy: The Art of Skepticism**

With the rapid growth in access to information, the ability of consumers to use it wisely has become a key issue in creating educated information consumers (Kerka, 1999; Salomon, 2000). The need to properly use information is not unique to the digital era; it has always been central to successful learning,



even before the information revolution. However, in the modern era, with the unlimited exposure to digital information, which can be published easily and manipulated without difficulty, the ability to use and assess information properly has become a "survival skill" for scholars and information consumers. During academic research, decisions are made as to which data items to use, and which to ignore. These decisions are made in the course of retrieving information from databases, or surfing the Internet. User awareness in making these decisions largely determines the quality of the conclusions, positions, opinions, or models constructed from the information. The term Information literacy, refers to the cognitive skills that consumers use to evaluate information in an educated and effective manner.

### **Integrating technology into Post graduate learning**

Ginsburg (1998) presents a helpful way to think about integrating technology into Post graduate students learning by proposing four basic approaches: technology as curriculum, delivery mechanism, complement to instruction, and instructional tool. Not only can Postgraduate students learn content through technology, they can also learn about technology itself (Merriam and Brockett 1997) and develop the skills to use it competently. An example of the technology as curriculum approach is the course, "Exploring the Internet." Offered by the Georgia Center for Continuing Education, the 10-hour, noncredit evening course is designed to provide Postgraduate students with the concepts and skills for using Internet applications such as e-mail and the Web (Cahoon 1998). The benefits of this approach include the opportunity to address each aspect of the technology in a clear, structured manner; little or no distraction from peripheral learning issues or goals beyond those of learning the technology; and efficiency in acquiring a discrete set of technology skills that can be applied in different settings. The major limitation of the approach is the narrow focus on the technology and the skills to use it. When technology skills are acquired in an isolated environment, they may not be easily transferred and applied by the learner in meaningful ways. In addition, if the learner lacks an opportunity for practice, the skills may deteriorate (Ginsburg 1998).

A second approach for integrating technology into Post graduate students learning is to use it as means for instructional delivery. In basic skills



instruction, an example of this approach is the individualized learning system (ILS). ILSs are designed to provide instruction and practice in a set of subskills that together form an entire curriculum. Other examples include televised instruction and instruction delivered through video or audiotapes. Although this approach lends itself to individualizing instruction, for the most part, the learner works in isolation from other learners and, in some instances, the teacher. Also, few, if any, technology skills are acquired. For example, ILSs require learners only to retrieve the software program, identify themselves, and employ a limited number of keystrokes. They are also costly (*ibid.*), a limitation that does not extend to televisions, VCRs, and audiotape players, which are more readily available.

In Post graduate students learning settings, technology is frequently used to complement instruction and extend learning. In Post graduate students basic education, for example, a learner might use a piece of software to practice a weak or underdeveloped skill area that has been the focus of classroom instruction (*ibid.*). Another example of this approach is the use of Internet activities and assignments to supplement traditional distance learning (for example, telephone-supported correspondence study) (Eastmond 1998). In this approach, the instructor remains the primary coordinator of instruction and the extent to which technology is integrated with traditional instruction depends upon both the teacher's style and the kind and type of technology available. Use of technology to complement instruction extends the instruction beyond the knowledge and experiences of the teacher and can also provide opportunities for the teacher to learn. The approach also provides learners the opportunity to practice skills in private, and it can promote self-direction by allowing learners to supplement instruction in ways that meet their individual needs (Eastmond, 1998; Ginsburg, 1998).

A major limitation of this approach is the kind and type of material available that is suitable for Post graduate students and that promotes good Post graduate students learning practices. In the case of software, for example, teachers must take time to locate, review, and select software packages. Also, drill and practice, which does not involve the development of high-level cognitive skills such as problem solving, is the focus of many software programs. The cost of acquiring the most suitable software may also be a limitation. Finally, to avoid technology simply becoming an "add-on,"



teachers need to ensure that the use of technology is congruent with the primary instruction (Ginsburg 1998).

When technology is used as an instructional tool, it is integrated into instructional activities. The primary instructional goals and outcomes remain the same, but technology is used to enrich and extend them. Although acquiring technology-related skills is not the primary focus in this approach instructional activities frequently support their development. In completing writing assignments. for example, learners develop skills in word processing (ibid). The spread of the Internet and the World Wide Web has made this approach very common in distance education and in other education and training settings. Distance education delivered via computer conferencing is one example (Eastmond, 1998). Technology has also been used to extend Post graduate students literacy curricula in a multilevel classroom by enabling learners to have immediate access to Internet-based resources that provide content of interest to their life situations and allow for teaching of skills in context (Cowles 1997). This approach allows learners to develop skills and have experiences with technology in ways that will benefit them outside the instructional setting.

When compared to the first approach, technology as curriculum, learners may more readily transfer the technology skills learned to other settings. When used as an instructional tool, the Internet provides access to information and resources that might not ordinarily be available (Ginsburg 1998). As will be discussed more fully in the next section, this approach can also be used to broaden and enhance Post graduate students learning experiences. A limitation of this approach is the willingness of instructors to adapt or develop instructional activities. In Post graduate students basic education, a shortage of curricular resources that integrate and benefit from technology exists. Access to technology for either educational providers or learners can also be a problem. Finally, an instructors understanding and ability to use the technology may also be a limitation.

The four approaches presented here are all currently used for Post graduate students learning, and they are helpful in thinking about how to integrate technology into Post graduate students learning. How technology can be structured to capitalize on the characteristics of Post graduate students learners must be considered as well. Like any other instructional tool, technology can serve to perpetuate poor



educational practice or it can become a means for transforming learning. In formal learning settings, leadership for using technology effectively rests with the instructor. However, “[technologies] are not neutral tools. Their use will reflect whatever values the educator holds consciously or subconsciously about her/his relationship with learners, and their use will invariably bring advantages and disadvantages” (Burge and Roberts 1993).

Technology can enhance Post graduate students learning because it has the potential to increase flexibility, provide access to expertise, facilitate discussion among learners who cannot meet face to face, reduce feelings of isolation often experienced by nontraditional learners, increase learner autonomy, and support and promote constructivist and collaborative learning (Burge 1994; Cahoon 1998; Eastmond 1998; Field 1997). However, because “technology in and of itself does not promote learning” (Burge and Roberts 1993.), its use does not obviate the educator's responsibility for structuring the learning to ensure these benefits .

Part of using technology effectively is understanding what Post graduate students want in the learning environment when technology is employed. Suggestions for structuring environments include the following (adapted from Burge and Carter, 1997):to help when it is needed.

- Because Post graduate students generally have two basic intrinsic motivating drives of autonomy and affiliation, provide a learning environment that promotes both independent and interdependent activities with cognitive as well as psychosocial support.
- Because Post graduate students value economy of effort (i.e. they don't want to waste time), ensure that the learning tools are intuitive and essential for the immediate task.

The literature contains a number of examples of how technology is being used to promote and extend good practice in Post graduate students learning. Cowles (1997) uses the Internet to support her beliefs that skills are learned best when embedded in context of interest to the learner and when learning is active. She has found the Internet to be a tool that can be used to individualize instruction but at the same time keep it in the context of the group and program goals. Pobega (1996) describes how he was able to use the Internet to involve students more directly in producing a student newspaper



that he had edited for 5 years with the goal of developing their literacy skills. Work on the newspaper resulted in students developing writing skills, engaging with technology, and working collaboratively as an editorial team. Technology enabled Pennsylvania practitioners to overcome two issues in professional development: isolation and the effective use of practice-based professional development (Strunk and Fowler-Frey 1996). The Internet allowed 10 Post graduate students basic education practitioners engaged in action research projects to form a research community that provided not only support and encouragement but also led to critical reflection on their practice. As reported by Eastmond (1998), studies of Post graduate students learning through online instruction found that learners engaged in knowledge construction, collaborative learning, reflection, and interactivity. However, as Eastmond points out, none of “these elements are inherent in the technology but must be fostered by the course design, instructor engagement, and student behavior”

## **METHODOLOGY**

This study employs one case study method on the ICT use and perceived impact on teaching and learning among postgraduate students of Olabisi Onabanjo University, Ago-Iwoye Ogun State. A structured questionnaire is designed to elicit information based on the research objectives. The questionnaire are in two parts A and B.

Section A consists of socio economic characteristics of the respondents such as gender, age, highest level of education etc. Section B consists of four point likert rating scale question, that is centered on information technology particularly the Internet and its effect on teaching and learning.

One hundred copies of questionnaire were distributed to the respondents. The questionnaires, after administering were later analyzed for the purpose of this work, t-test, charts and percentages were used in data analysis.



## RESULTS AND DISCUSSIONS

**Table 4.1: DISTRIBUTION OF RESPONDENTS BY GENDER**

Gender	Frequency	Percentage
Male	45	45.0
Female	55	55.0
Total	100	100.0

The table above represents the distribution of respondents by sex. According to the results of the descriptive analysis, 45 representing 45.0% of the respondents were male while 55(55.0%) were female. This shows that majority of the respondents that constitute the target population of the sample students were female.

**TABLE 4.2: DISTRIBUTION OF RESPONDENTS BY AGE**

AGE	FREQUENCY	PERCENTAGE
<30 years	10	10.0
30-35 years	42	42.0
36 years or more	48	48.0
Total	100	100.0

The table above represents the distribution of respondents by the age of postgraduate students sampled. According to the results of the descriptive analysis, 10 representing about 10.0 % of the students sampled were below 30 years of age and 42 (42.0%) were between 30 and 35 years while 48 (48.0%) were of age 36 years or more. This shows that majority of the students that constitute the target population were between 36 and above.

**TABLE 4.3: DISTRIBUTION BY EDUCATIONAL QUALIFICATION**

EDUCATION	FREQUENCY	PERCENTAGE
HND/Degree	33	33.0
MSC	49	49.0
Others	18	18.0
Total	100	100.0



The table above represents the distribution by educational level attained. According to the results of the descriptive analysis, 33 representing about 33.0% of the students had HND/Degree qualification and 49(49.0%) had Master degree while

18(18.0%) had other qualification. This shows that majority of the students had master degree.

**TABLE 4.4: DO YOU UNDERSTAND WHAT ICTs ENTAILS?**

PARAMETERS	FREQUENCY	PERCENTAGE
Yes	90	90.0
No	10	14.0
Total	100	100.0

The table above shows that 90 (90.0%) of the students understand what ICTs means while 10(10.0%) does not. This shows that majority of the postgraduate's student understand what ICT entails.

## HYPOTHESES TESTING

**Hypothesis: That ICT use (has significant effect on teaching and learning)**

Parameters	N	Mean	STD	t-cal	P	Remarks
Evaluation Information technology	100	30.36	4.96	44.15	0.000	Significant
Teaching and learning	100	29.63	5.69			

The table above presents t-test showing significant differences in the use of Information and Communications Technology in teaching and learning. The result of the analysis shows that the mean use of information and Communications Technology is 30.36 and that of teaching and learning is 29.63 with standard deviation of 4.96 and 5.69 respectively. The mean differences were significant at 5% level. This shows that the use of Information and Communications Technology has significant effect on teaching and learning. Also the t-calculated value of 44.15 whose probability close to zero percent shows that use of Information and Communications Technology significantly affects students' teaching and learning. In essence, a



thorough use of ICT will improve teaching and learning at the postgraduate level.

### **Conclusion**

Technology education, as explored in this study, combines a variety of teaching-learning approaches: from an instructivist approach in teaching theory. The study demonstrated that using ICT is likely to have the most significant effect on students involved in learner-controlled tasks. The use of ICT has significant impact when introduced into teaching and learning activities. When the post graduate students deal with tasks that are well thought-out, structured, and limited in time, they use the technological means just as tools for more efficient work or elegant reporting. Using ICT in teaching and learning can look modern and sophisticated but the fact remains that it enhances performance and has positive perceived impacts on post graduate students, not only in learning and teaching but in carrying out their research activities.

### **Recommendations**

**Based on the study conducted, the following recommendations are hereby made**

- > Postgraduate students' should use ICT for effective learning to take place.
- Technological phobia, as much as possible, on the part of the post graduate students of Olabisi Onabanjo University, Ago –Iwoye should be discouraged
- ICT should be seen as a tool that can support and advance the goals of Postgraduate students learning, teaching and research activities.
- Post graduate students should be proactive in developing opportunities that will provide advantages for them so that they will not end up watching the exploitation of technologies from the sidelines (Field 1997).
- The primary concern of Olabisi Onabanjo University post graduate student should be to ensure that their focus is on the learning and not on technology. “The spotlight should first fall on the conditions, dynamics and outcomes of learner activity, in ways that promote



learner self-esteem and their competence as proactive learners” (Burge and Roberts 1993).

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